

15 June 2022



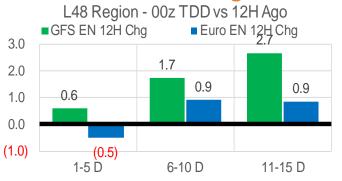
	Current	Δ from YD		m 7D vg
WTI Prompt	\$ 118.18	\$ (0.75)	~ \$	(2.6)

	Current	Δ from YD	∆ froi	m 7D
	Current	ם וווטווו דם	A۱	vg
Brent Prompt	\$ 120.63	\$ (0.54)	- \$	(1 7)
Prompt	Ψ 120.00	Ψ (0.01)	Ψ	()

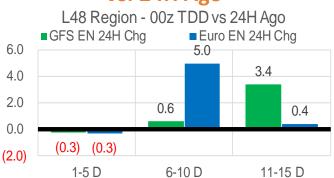
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Price Summary

Vs. 12H Ago



Vs. 24H Ago



Δ from YD

Current

	Current	Δ from YD	Δ from 7D Avg
US Dry Production	95.8	0.49	▼ -0.34

US Dry Production	95.8	a 0.49	▼ -0.34	US Power Burns	41.0	1.61
	Current	Δ from YD	Δ from 7D Avg		Current	Δ from YD

0.48

	Current	Δ from YD	Δ from 7D Avg
Net LNG Exports	10.5	▼ -0.14	▼ -0.26

-0.16

8.9

US

ResComm

	Current	Δ from YD	Δ from 7D
Canadian Imports	6.1	▼ -0.30	• 0.03
	Current		Avg

	Current	Δ from YD	Δ from 7D Avg
Mexican Exports	7.4	- 0.01	a 0.20

Δ from 7D

Avg

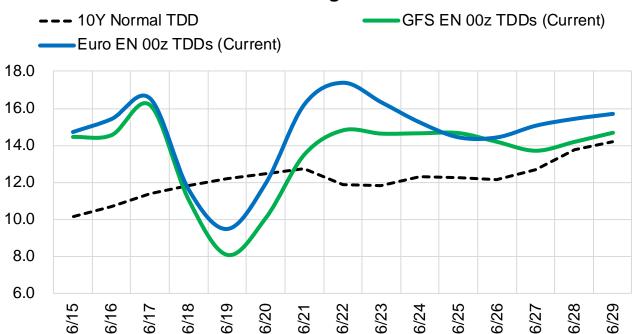
5.07

Δ from 7D

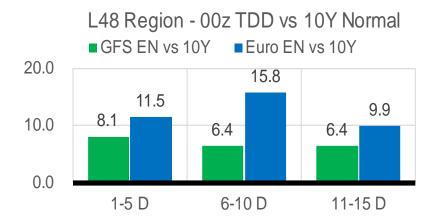


Short-term Weather Model Outlooks (00z)

L48 Region



Vs. 10Y Normal



Source: WSI, Bloomberg



Lower 48 Component Models

Daily Balances

	9-Jun	10-Jun	11-Jun	12-Jun	13-Jun	14-Jun	15-Jun	DoD	vs. 7D
Lower 48 Dry Production	96.5	96.3	96.3	96.0	96.5	95.3	95.8	0.5	▼ -0.3
Canadian Imports	6.1	5.9	5.7	5.8	6.2	6.4	6.1	▼-0.3	0.0
L48 Power	36.3	35.1	32.9	33.5	38.6	39.4	41.0	1.6	5.0
L48 Residential & Commercial	8.2	8.0	7.6	8.0	9.1	9.0	8.9	▼-0.2	0.5
L48 Industrial	21.2	21.5	21.7	21.8	21.9	21.8	21.5	▼-0.3	- 0.2
L48 Lease and Plant Fuel	5.2	5.2	5.2	5.2	5.2	5.2	5.2	▼ 0.0	- 0.1
L48 Pipeline Distribution	2.4	2.3	2.2	2.3	2.6	2.6	2.7	0.1	a 0.3
L48 Regional Gas Consumption	73.4	72.2	69.6	70.8	77.4	78.1	79.2	1.2	5.6
Net LNG Delivered	10.61	10.82	10.75	10.51	10.79	10.62	10.48	▼-0.1	▼ -0.2
Total Mexican Exports	7.4	7.3	6.9	6.9	7.1	7.4	7.4	▼ 0.0	a 0.2
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	11.2	12.0	14.7	13.6	7.5	5.7	4.8		
Daily Model Ello									

EIA Storage Week Balances

	11-Jun	13-May	20-May	27-May	3-Jun	10-Jun	WoW	vs. 4W
Lower 48 Dry Production	93.5	96.2	95.3	96.3	97.0	96.5	▼ -0.5	0.3
Canadian Imports	4.8	5.2	4.9	4.9	4.8	5.4	0.6	0.5
L48 Power	35.1	26.8	30.4	30.0	30.7	33.8	3.1	4.4
L48 Residential & Commercial	8.9	14.5	10.0	11.6	9.0	8.5	▼ -0.5	▼ -2.8
L48 Industrial	20.8	20.9	21.3	20.2	21.4	20.9	▼ -0.5	▼ -0.1
L48 Lease and Plant Fuel	5.1	5.2	5.1	5.2	5.3	5.2	▼ 0.0	0.0
L48 Pipeline Distribution	2.4	2.3	2.3	2.4	2.2	2.2	0.0	▼ -0.1
L48 Regional Gas Consumption	72.3	69.6	69.1	69.4	68.6	70.6	2.0	1.4
Net LNG Exports	9.4	12.2	12.2	13.0	12.8	12.3	▼ -0.5	▼-0.3
Total Mexican Exports	7.3	7.0	7.0	7.0	7.1	7.1	▲ 0.0	▲ 0.1
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	9.2 2.3 6.9	12.5 12.7 -0.2	11.9 11.4 0.5	11.7 12.9 -1.2	13.4 13.9 -0.5	11.9	-1.5	

Monthly I	Balances
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,	2Yr Ago	LY					MTD		
	Jun-20	Jun-21	Feb-22	Mar-22	Apr-22	May-22	Jun-22	MoM	vs. LY
Lower 48 Dry Production	87.9	93.2	92.7	93.5	96.0	96.1	96.4	0.4	3.2
Canadian Imports	4.0	4.8	6.5	5.2	5.8	5.1	5.6	0.5	0.7
L48 Power	34.9	35.9	28.7	25.5	24.7	28.8	34.1	5.2	T -1.9
L48 Residential & Commercial	8.8	8.9	43.3	31.5	22.5	12.3	8.5	▼-3.8	▼-0.3
L48 Industrial	20.0	20.2	22.1	19.7	21.4	20.9	21.3	0.3	1.1
L48 Lease and Plant Fuel	4.8	5.0	5.1	5.2	5.2	5.2	5.2	0.0	0.2
L48 Pipeline Distribution	2.3	2.4	3.5	2.9	2.6	2.3	2.3	▼ 0.0	▼ -0.1
L48 Regional Gas Consumption	70.8	72.5	102.7	84.7	76.4	69.6	71.4	1.8	▼-1.1
Net LNG Exports	4.0	10.2	12.4	12.9	12.3	12.5	11.8	▼-0.7	1.6
Total Mexican Exports	5.5	7.4	6.2	6.5	6.7	7.0	7.1	0.1	▼-0.3
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	11.5	8.0	-22.1	-5.4	6.3	12.1	11.7		



Daily Average Generation Data

Nuclear Generation Daily Average - GWh (NRC)

	7-Jun	8-Jun	9-Jun	10-Jun	11-Jun	12-Jun	13-Jun	DoD	vs. 7D
NRC Nuclear Daily Output	88.6	88.9	88.9	88.5	88.6	87.7	88.1	0.3	-0.5
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	104.9	0.0	0.0
NRC Nuclear Outage	16.3	16.0	16.0	16.4	16.2	17.1	16.8	-0.3	0.5
NRC % Nuclear Cap Utilization	90.1	90.4	90.4	90.0	90.1	89.2	89.5	0.3	-0.5

Wind Generation Daily Average - MWh (EIA)

	7-Jun	8-Jun	9-Jun	10-Jun	11-Jun	12-Jun	13-Jun	DoD	vs. 7D
CALI Wind	3627	4002	2419	2343	3886	4580	3629	-952	153
TEXAS Wind	13604	15227	9283	11359	16388	21500	24285	2785	9724
US Wind	34054	40924	30765	29843	43076	52649	73290	20641	34739

Generation Daily Average - MWh (EIA)

	7-Jun	8-Jun	9-Jun	10-Jun	11-Jun	12-Jun	13-Jun	DoD	vs. 7D
US Wind	34054	40924	30765	29843	43076	52649	73290	20641	34739
US Solar	25432	23660	24705	25083	24523	24413	23822	-591	-814
US Petroleum	994	963	995	1004	967	1020	1860	840	870
US Other	10843	11229	11057	10849	10516	10729	11811	1082	940
US Coal	100140	98349	101604	95542	92938	98842	108625	9783	10722
US Nuke	91034	91208	91360	91277	90804	90008	90231	223	-717
US Hydro	37622	38895	39605	37861	36058	35574	37603	2029	0
US Gas	207146	209880	217216	209997	192480	191458	225208	33750	20512

See National Wind and Nuclear daily charts



Storage Week Average Generation Data

	6-May	13-May	20-May	27-May	3-Jun	10-Jun	WoW	WoW Bcf/d Impact	
NRC Nuclear Daily Output	76.7	79.3	81.7	84.2	86.2	88.3	2.1	-0.4	
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	0.0		
NRC Nuclear Outage	28.2	25.5	23.2	20.6	18.7	16.6	-2.1		
NRC % Nuclear Cap Utilization	78.0	80.7	83.1	85.7	87.6	89.8	2.2		

Wind Generation Weekly Average - MWh (EIA)

Nuclear Generation Weekly Average - GWh (NRC)

	6-May	13-May	20-May	27-May	3-Jun	10-Jun	WoW	Bcf/d Impact
CALI Wind	2929	3983	3452	2798	3268	3842	574	-0.1
TEXAS Wind	16902	17705	15706	14010	17915	12449	-5466	1.0
US Wind	57244	64974	50251	50129	57939	37417	-20522	3.7
							-35%	
						-0.3		

Generation Weekly Average - MWh (EIA)

						est.		
		40.14		o= 14		40.1		WoW
	6-May	13-May	20-May	27-May	3-Jun	10-Jun	WoW	Bcf/d
								Impact
US Wind	57244	64974	50251	50129	57939	37417	-20522	3.7
US Solar	17079	18000	19634	17491	19452	24728	5276	-0.9
US Petroleum	931	341	262	448	863	968	105	0.0
US Other	7529	7615	7871	7684	8282	10933	2651	-0.5
US Coal	78898	81273	88922	88570	89706	95414	5708	-1.0
US Nuke	80558	83391	85510	88016	89606	90728	1121	-0.2
US Hydro	26831	28968	31973	33772	35051	36327	1277	-0.2
US Gas	145774	148473	172224	160070	165523	193161	27638	5.0

See National Wind and Nuclear daily charts



Monthly Average Generation Data

	2Yr Ago LY					MTD					
	Same 30 days	Same 30 days	Mar-22	Apr-22	May-22	Jun-22	Last 30 days	Last 30 days YoY			
NRC Nuclear Daily Output	87.2	87.3	81.3	73.3	81.7	88.2	86.3	-1.0			
NRC Nuclear Max Capacity	104.9	104.9	104.9	104.9	104.9	104.9	104.9	0.0			
NRC Nuclear Outage	17.7	17.6	23.6	31.6	23.2	16.7	18.6	1.0			
NRC % Nuclear Cap Utilization	88.7	88.7	82.7	74.5	83.0	89.7	87.7	-1.0			

Wind Generation Monthly Average - MWh (EIA)

	2Yr Ago	LY				MTD		
	Same 30 days	Same 30 days	Mar-22	Apr-22	May-22	Jun-22	Last 30 days	Last 30 days YoY
CALI Wind	2349	3523	2250	3186	3361	3567	3430	-94
TEXAS Wind	9278	10495	14837	16311	16756	15382	16347	5852
US Wind	38819	41271	58528	64183	56462	45203	51320	10049

Generation Monthly Average - MWh (EIA)

	2Yr Ago	LY				MTD		
	Same 30 days	Same 30 days	Mar-22	Apr-22	May-22	Jun-22	Last 30 days	Last 30 days YoY
US Wind	38819	41271	58528	64183	56462	45203	51320	10049
US Solar	11060	14776	14061	16291	18157	24152	21236	6460
US Petroleum	518	838	985	985	518	1156	842	4
US Other	8049	7427	7206	7386	7723	10874	9319	1892
US Coal	78651	105096	82290	77545	85273	98987	93411	▼-11684
US Nuke	90859	90995	85256	77217	85496	90623	89389	▼ -1606
US Hydro	38360	31231	33959	29022	31369	36584	35182	3951
US Gas	165065	166905	137232	133068	157565	201771	180459	13554
US Total	430173	458873	419838	406228	443936	492172	473557	14684



See National Wind and Nuclear daily charts



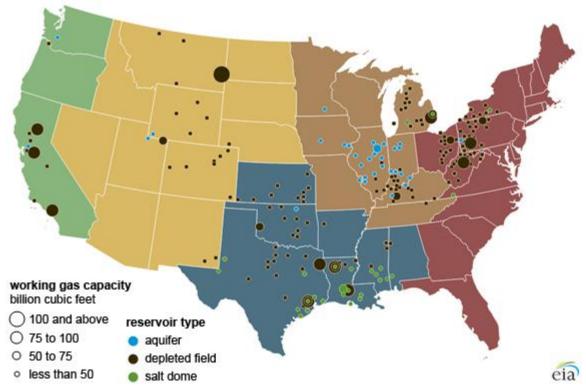
Regional S/D Models Storage Projection

Week Ending 10-Jun

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	12.8	-0.3	12.5	88
East	2.1	2.1	4.2	30
Midwest	5.1	-1.6	3.6	25
Mountain	4.3	-3.8	0.4	3
South Central	-1.2	3.6	2.4	17
Pacific	2.6	-0.7	1.8	13

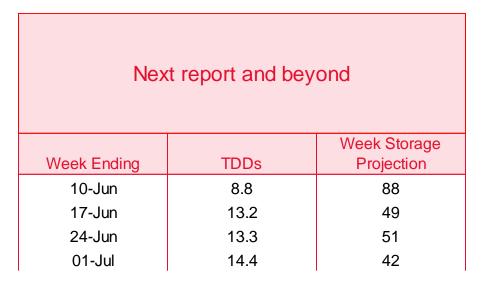
^{*}Adjustment Factor is calcuated based on historical regional deltas

U.S. underground natural gas storage facilities by type (July 2015)

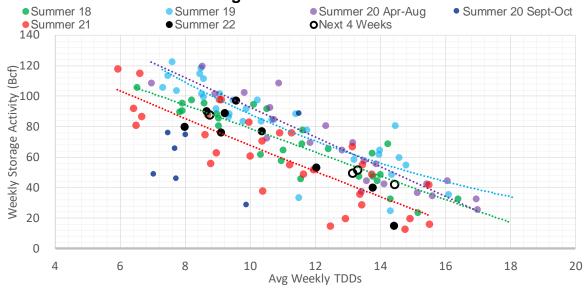




Weather Model Storage Projection



Weather Storage Model - Next 4 Week Forecast



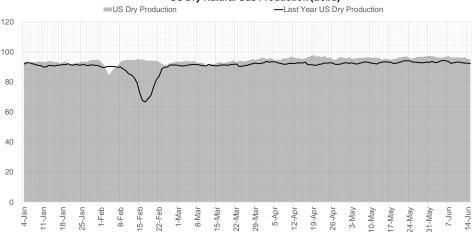
Go to larger image



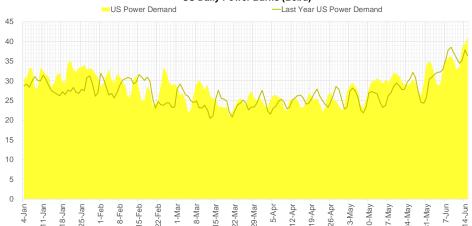


Supply - Demand Trends

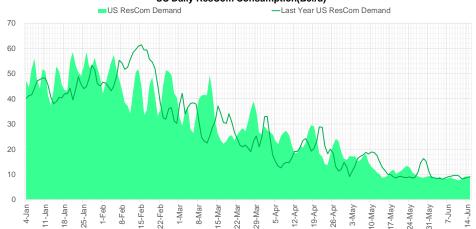
US Dry Natural Gas Production (Bcf/d)



US Daily Power Burns (Bcf/d)



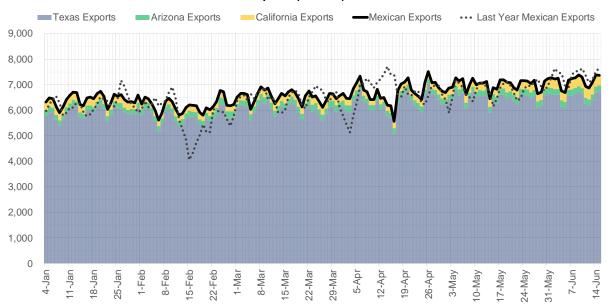
US Daily ResCom Consumption(Bcf/d)



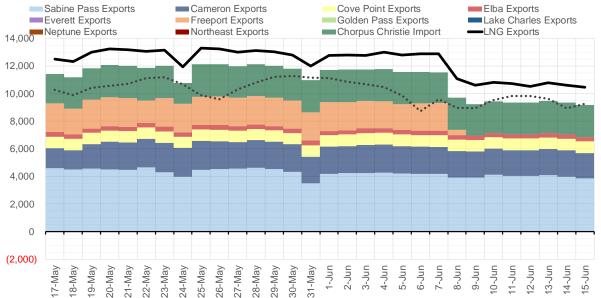
Source: Bloomberg



Mexican Exports (MMcf/d)



Net LNG Exports - Last 30 days (MMcf/d)



Source: Bloomberg



Nat Gas Options Volume and Open Interest CME and ICE Combined

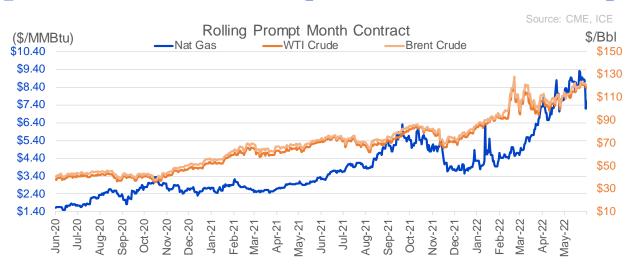
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
7	2022	С	11.00	16603	8	2022	С	10.00	45522
7	2022	С	9.50	13464	7	2022	С	11.00	38318
8	2022	С	10.00	10121	8	2022	С	12.00	36516
7	2022	С	10.00	9886	10	2022	С	6.00	35484
8	2022	Р	7.00	8801	8	2022	С	10.50	30942
8	2022	С	10.50	8529	10	2022	P	6.00	24534
7	2022	Р	7.00	7431	10	2022	С	5.00	24019
7	2022	С	9.00	6374	9	2022	С	6.00	23675
7	2022	P	6.00	5585	7	2022	С	10.00	23039
7	2022	С	10.50	5256	7 8	2022 2022	С	9.00	22977 22006
7	2022	P	6.50	5094	8 10	2022	C P	12.10 3.00	20875
8	2022	С	10.10	4629	10	2022	P	3.50	20745
8	2022	С	8.00	4318	9	2022	C	10.00	20743
7	2022	Р	7.25	4079	8	2022	P	6.00	20528
7	2022	Р	7.50	3800	o 7	2022	C	11.10	20526
7	2022	С	7.50	3778	7	2022	P	6.00	20167
7	2022	С	8.00	3637	10	2022	P	2.50	19870
8	2022	Р	6.50	3567	8	2022	C	6.00	19733
7	2022	С	12.00	3466	9	2022	P	4.00	19318
7	2022	Р	8.00	3216	5	2022	P	2.00	19052
8	2022	С	12.00	3189	7	2023	C	6.00	18847
7	2022	С	13.00	3047	7	2022	C	9.50	
7	2022	С	8.50	3029	7		P		18731
7	2022	Р	7.20	2859	8	2022 2022		7.00 7.00	18441 18256
7	2022	С	9.25	2545	8 12	2022	C C	7.00 5.00	18256
8	2022	С	8.10	2515	9	2022	C	7.00	18041
7	2022	С	15.00	2314	7	2022	C	8.00	17783
7	2022	Р	6.75	2239	7	2022	C	7.00	17651
9	2022	С	9.00	2159	7	2022	P	7.00 3.25	17344
8	2022	С	9.00	2089	10	2022	P	2.00	17344
11	2022	С	25.00	2005	8	2022	C	9.00	16859
12	2022	Р	5.00	2002	o 1	2022	C		16714
10	2022	С	25.00	2001	10	2023	P	10.00 4.00	16507
12	2022	С	25.00	2000	3	2022	C	10.00	16383
9	2022	С	10.00	1956	9	2023	C	4.00	15970
10	2022	С	10.00	1947	10	2022	P	2.00	15955
10	2022	C	12.00	1942	10	2023	C	10.00	15778
7	2022	P	7.45	1861	7	2022	P	5.50	15763
7	2022	С	11.40	1799	2	2022	C	10.00	15511
7	2022	C	10.60	1594	9	2023	P	2.50	15292
8	2022	Ċ	15.00	1555	7	2022	P	3.50	15279
8	2022	Ċ	8.50	1553	8	2022	P	7.00	15135
8	2022	P	6.75	1501	9	2022	P P	7.00 2.75	14883
11	2022	Р	5.00	1403	7	2022	P	5.00	14642
7	2022	Р	5.00	1389	9	2022	P	3.00	14601
7	2022	Р	7.75	1381	8	2022	P	3.00	14554
7	2022	P	6.25	1280	10	2022	P	3.00	14554
8	2022	r P	7.25	1264	7	2022	P	3.25	14532
8	2022	P	7.50	1223	11	2022	P	3.00	14521.25
O	2022	'	7.00	1220	11	2022	Source	: CME, ICE	14021.20



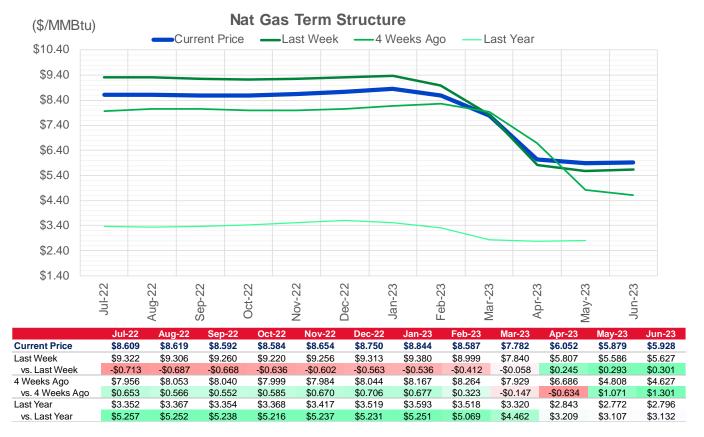
Nat Gas Futures Open Interest

CME and ICE Combined

CME Henry	Hub Futures (10	0,000 MMBt	u)	ICE Henry I	Hub Futures Con	tract Equiva	alent (10,000 MM
	Current	Prior	Daily Change		Current	Prior	Daily Change
JUL 22	72126	83720	-11594	JUL 22	91228	83252	7976
AUG 22	94818	89342	5476	AUG 22	64168	66572	-2405
SEP 22	151434	149924	1510	SEP 22	76812	77001	-190
OCT 22	95014	96382	-1368	OCT 22	73451	72481	970
NOV 22	52733	52138	595	NOV 22	59708	59787	-79
DEC 22	50811	51599	-788	DEC 22	62549	63709	-1160
JAN 23	59887	63390	-3503	JAN 23	69507	68985	522
FEB 23	27768	26996	772	FEB 23	54706	54182	525
MAR 23	47587	48329	-742	MAR 23	53591	53543	49
APR 23	62800	63690	-890	APR 23	51928	52464	-536
MAY 23	62370	64125	-1755	MAY 23	51234	52915	-1681
JUN 23	23945	25114	-1169	JUN 23	44694	45423	-729
JUL 23	24311	25261	-950	JUL 23	43745	43752	-8
AUG 23	15960	15890	70	AUG 23	42963	43549	-587
SEP 23	18474	18362	112	SEP 23	42218	42631	-413
OCT 23	40466	40970	-504	OCT 23	49679	49437	242
NOV 23	11429	11805	-376	NOV 23	43680	43685	-5
DEC 23	13157	13680	-523	DEC 23	39889	39874	15
JAN 24	19682	19528	154	JAN 24	39921	39797	125
FEB 24	6177	5981	196	FEB 24	27185	27206	-21
MAR 24	14285	14144	141	MAR 24	32213	32249	-36
APR 24	13302	13249	53	APR 24	27244	27475	-230
MAY 24	6651	6658	-7	MAY 24	26338	26157	180
JUN 24	2233	2233	0	JUN 24	22471	22533	-61
JUL 24	1964	1968	-4	JUL 24	22569	22641	-72
AUG 24	2948	2949	-1	AUG 24	22565	22638	-73
SEP 24	1382	1386	-4	SEP 24	22056	22051	4
OCT 24	7147	7131	16	OCT 24	25031	25129	-98
NOV 24	4511	4494	17	NOV 24	23576	23542	34
DEC 24	7104	7096	8	DEC 24	25488	25388	101







		Cash	Prompt	Cash to
	Units	Settled	Settle	Prompt
AGT Citygate	\$/MMBtu	8.70	8.98	0.28
TETCO M3	\$/MMBtu	6.90	8.52	1.62
FGT Zone 3	\$/MMBtu	6.73	9.47	2.74
Zone 6 NY	\$/MMBtu	6.73	8.57	1.85
Chicago Citygate	\$/MMBtu	7.00	9.01	2.01
Michcon	\$/MMBtu	7.06	8.93	1.88
Columbia TCO Pool	\$/MMBtu	6.54	8.41	1.87
Ventura	\$/MMBtu	7.70	8.97	1.27
Rockies/Opal	\$/MMBtu	6.74	8.75	2.01
El Paso Permian Basin	\$/MMBtu	7.74	8.56	0.82
Socal Citygate	\$/MMBtu	7.79	10.48	2.69
Malin	\$/MMBtu	6.21	9.09	2.88
Houston Ship Channel	\$/MMBtu	7.68	9.15	1.48
Henry Hub Cash	\$/MMBtu	7.56	8.89	1.33
AECO Cash	C\$/GJ	5.71	6.69	0.98
Station2 Cash	C\$/GJ	5.21	8.82	3.61
Dawn Cash	C\$/GJ	7.05	9.03	1.98

Source: CME, Bloomberg



					V	s. 4 Weeks		
	Units	Current Price	vs.	Last Week	V	Ago	VS	s. Last Year
NatGas Jul21/Oct21	\$/MMBtu	2.224		0.000		0.000		2.205
NatGas Oct21/Nov21	\$/MMBtu	0.361		0.000		0.000		0.306
NatGas Oct21/Jan22	\$/MMBtu	-1.817		0.000		0.000		-2.057
NatGas Apr22/Oct22	\$/MMBtu	1.834		-2.035		-1.152		1.812
WTI Crude	\$/Bbl	118.93		-0.480		6.530		46.810
Brent Crude	\$/Bbl	121.17		0.600		9.240		47.180
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18		0.000		0.000		0.000
Heating Oil	cents/Gallon	439.40		7.340		59.470		228.170
Propane, Mt. Bel	cents/Gallon	1.21		-0.030	•	-0.035		0.266
Ethane, Mt. Bel	cents/Gallon	0.65		-0.029		0.051		0.369
Coal, PRB	\$/MTon	12.30		0.000		0.000		0.000
Coal, PRB	\$/MMBtu	0.70						
Coal, ILB	\$/MTon	31.05		0.000		0.000		0.000
Coal, ILB	\$/MMBtu	1.32						



5.00

0.00

JUL 22

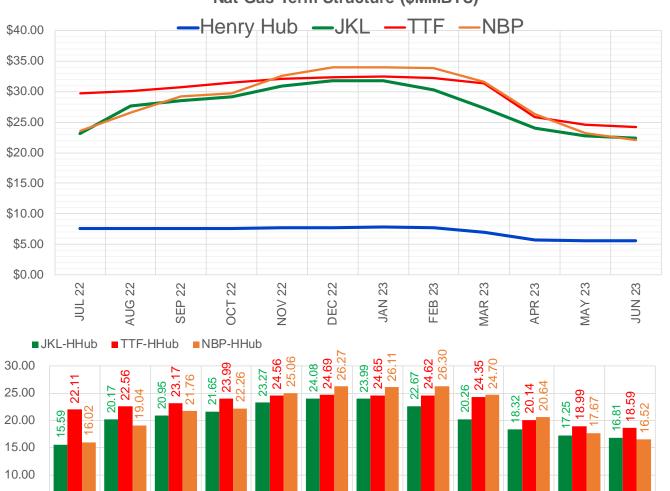
SEP 22

OCT 22

AUG 22

Market Report

Nat Gas Term Structure (\$MMBTU)



	JUL 22	AUG 22	SEP 22	OCT 22	NOV 22	DEC 22	JAN 23	FEB 23	MAR 23	APR 23	MAY 23	JUN 23
Henry Hub	\$7.588	\$7.569	\$7.541	\$7.544	\$7.642	\$7.757	\$7.850	\$7.640	\$6.992	\$5.687	\$5.553	\$5.606
JKL	\$23.175	\$27.735	\$28.495	\$29.190	\$30.910	\$31.840	\$31.835	\$30.310	\$27.250	\$24.005	\$22.805	\$22.415
JKL-HHub	\$15.587	\$20.166	\$20.954	\$21.646	\$23.268	\$24.083	\$23.985	\$22.670	\$20.258	\$18.318	\$17.252	\$16.809
TTF	\$29.699	\$30.126	\$30.713	\$31.530	\$32.201	\$32.449	\$32.499	\$32.259	\$31.339	\$25.828	\$24.546	\$24.199
TTF-HHub	\$22.111	\$22.557	\$23.172	\$23.986	\$24.559	\$24.692	\$24.649	\$24.619	\$24.347	\$20.141	\$18.993	\$18.593
NBP	\$23.610	\$26.606	\$29.296	\$29.804	\$32.704	\$34.023	\$33.963	\$33.944	\$31.692	\$26.325	\$23.221	\$22.125
NBP-HHub	\$16.022	\$19.037	\$21.755	\$22.260	\$25.062	\$26.266	\$26.113	\$26.304	\$24.700	\$20.638	\$17.668	\$16.519

DEC 22

NOV 22

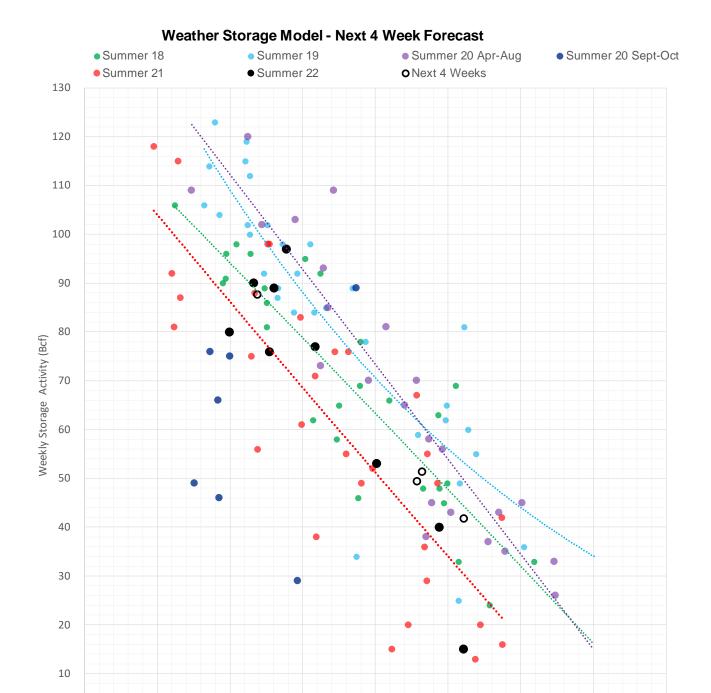
JAN 23

FEB 23

MAR 23

APR 23





Avg Weekly TDD



Weather Storage Model for Summer 2021 & 2022

